THE UTILITY REFORM NETWORK

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115 Sansome Street, Suite 900
San Francisco, CA 94104
415-929-8876 • www.turn.org
Marcel Hawiger, Staff Attorney

VIA EMAIL ONLY

November 5, 2012

Ehren Seybert
CPUC
Energy Division
505 Van Ness Avenue
San Francisco, CA 94102

Re: Comments of The Utility Reform Network on NEM Cost-Benefit Phase 1 Scope and Method

Dear Mr. Seybert:

Pursuant to the directions provided by Energy Division, the Utility Reform Network ("TURN") submits these informal comments on the propose Phase 1 study methodology, as explained in the October 16, 2012 paper prepared by Energy and Environmental Economics, Inc. ("E3 Study"). The E3 report explains that E3 will generally use the methodology prepared for the 2010 cost-effectiveness report, but with more detailed customer calculations of load and generation profiles, and more detailed individual bill impacts, based on greater availability of metered data.

TURN offers the following three observations and recommendations concerning the cost-effectiveness methodology. Our primary recommendation for a specific change is that there should be no avoided distribution capacity costs assigned to residential circuits (or residential customers) in calculating avoided benefits of behind the meter solar installations, as discussed in Observation No. 2 below.

Observation 1: Wholesale Price Curves May Change Significantly in the Future

TURN generally agrees that the methodology previously developed by E3 provides a reasonable approximation of the financial impacts of the NEM tariff on participants and non-participants under static circumstances. E3 calculates energy costs using historical day-ahead market prices; and calculates capacity costs by allocating the net costs of a combustion turbine across all hours using CAISO hourly system loads. The E3 Study does not detail the historical time period that will be used for this analysis.[1]

Our primary observation is that this methodology is a static analysis that, by definition, does not account for the dynamic interactions between net load profiles and price curves, as well as the potential changes in market prices caused by potential changes in wholesale market generation profiles.

Simply put, reasonable forecasts indicate that when wholesale solar projects, whose output is contracted on a must-take basis pursuant to RPS-eligible power purchase agreements, come on line in 2013-2016, the resulting increase in solar generation output during the 12-3 p.m. period will fundamentally alter wholesale market prices for energy, and wholesale contract prices for capacity.[2]

It is not yet clear if and how these wholesale price changes might impact retail rates, either for default tariffs or optional time-of-use tariffs, which are typically advantageous for NEM customers.

These market changes may significantly impact NEM cost-effectiveness, and may make the results of the E3 analysis outdated. Most significantly, the value of rooftop solar output may simply be less, and thus payment based on bill credits (based on retail rates) may overcompensate customer-generators. If customer-generators are grandfathered on any tariff, the result could well be significant overpayment in the future. Thus, any NEM tariffs should be structured so as to minimize this possibility.

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[1] The 2010 E3 cost-effectiveness report utilized market data from January 2008 to July 2009. Such data probably result in inflated avoided costs due to the unusually high natural gas prices in January-June of 2008.

[2] Mark Rothleder, John Goodin, and Karl Meeusen, California ISO, RA Flexibility Workshop: Flexible Capacity Procurement Proposal in R.11-10-023; see in particular Slides 8-10.

TURN Recommendation: The E3 report should provide some analysis of the potential impact of future wholesale generation profile changes on the value of rooftop solar, and should provide recommendations on how to structure present tariffs to allocate this risk and protect ratepayers from potentially high future payments.

Observation 2: Avoided Distribution Capacity Costs Should be Eliminated or Dramatically Reduced for Residential Circuits

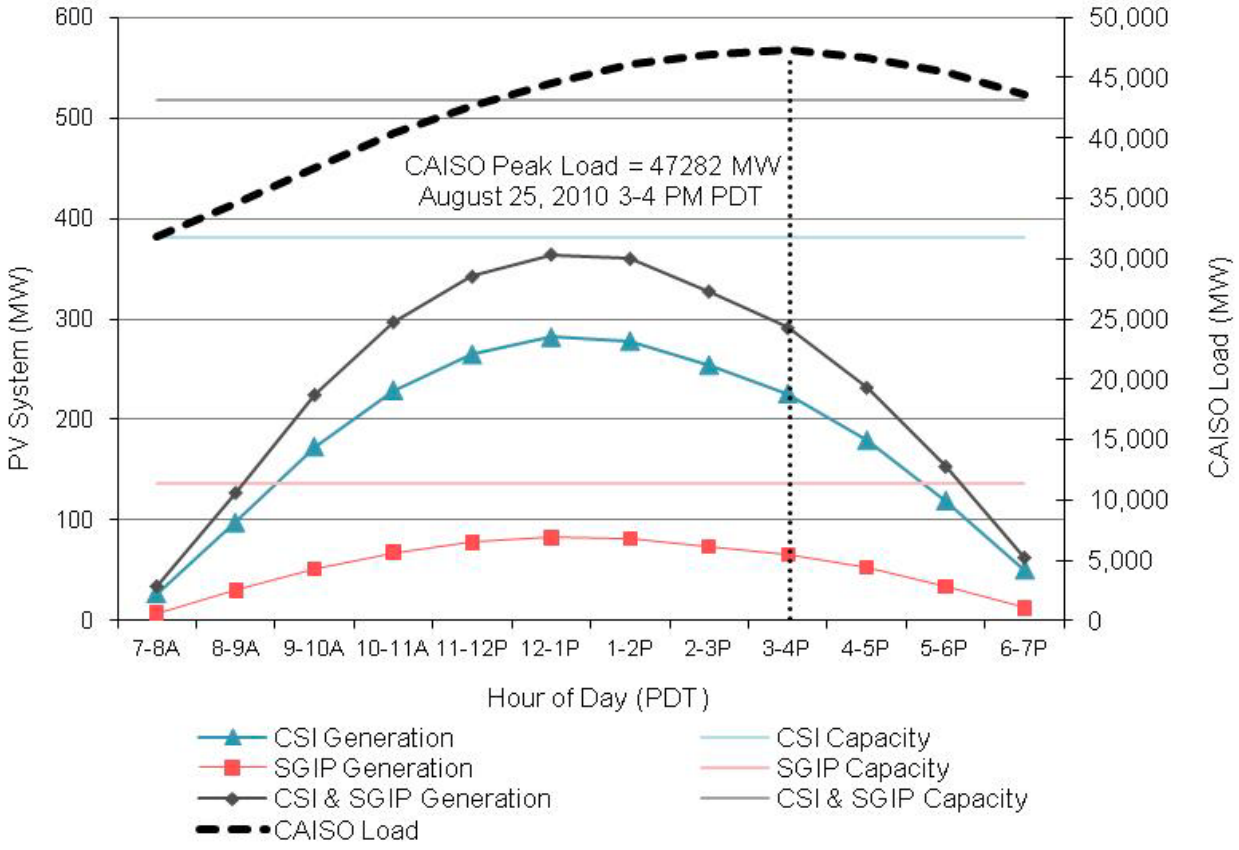
The E3 methodology calculates marginal transmission and distribution capacity values using utility rate case capital expenditure data. These costs are then allocated across different hours using weather data as a proxy for distribution loads. The allocation is determined separately for each climate zone.[3]

TURN strongly recommends against using this methodology to allocate distribution capacity costs for residential net-metering customers. The essential problem is that electrical circuits that are exclusively or primarily residential load generally peak during 6:00-7:00 p.m., much later than the system peak, which generally occurs during the 3:00-4:00 p.m. hour.[4] Solar output peaks during 12:00-1:00 and declines significantly with time. Thus, solar output on residential circuits provides very little generation capacity that could offset distribution circuit assets designed to serve peak circuit load for that circuit. The only avoidable distribution capacity would be farther away from the customer, perhaps at a substation serving a mix of customers.

These characteristics are illustrated most vividly in Figure 6-2 of the 2010 CSI Impact Evaluation Report, reproduced below:

[3] E3 NEM Cost-Effectiveness Report, March 2010, Appendix A, p. 16.

[4] See, generally, Itron, "CSI 2010 Impact Evaluation Final Report," June 24, 2011, chapter 6. SDG&E recently provided a chart of its 2010 peak day loads by class, which shows residential customers peaking at 6:30 or 7 p.m. with a system peak around 4 p.m. See, Chris Yunker, Revised Prepared Direct Testimony on behalf of SDG&E in App. 11-10-002 (2012 GRC Phase 2), page 9.



This figure shows that while the average CSI peak system hour capacity factor is about 60%,[5] the corresponding CSI capacity factor during hour 6-7 is only about 13%.[6]

The use of geographic load averaging – by using weather for an entire climate zone – and comparing such allocation to generation output profiles, significantly masks the differential peaking time of residential versus commercial circuits.

Simply put, rooftop solar generation may provide some capacity benefit (i.e. defer planned distribution capacity investments) on commercial circuits, but provides very little such benefit on residential circuits.

TURN Recommendation: The E3 methodology should be modified to exclude distribution capacity benefits from the calculations for the residential customer class.

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[5] Approximately 220 MW of output in hour 3-4 divided by 380 MW of capacity.

[6] Approximately 50 MW of output in hour 6-7 divided by 380 MW of capacity.

Alternatively, the methodology should be modified to make it circuit specific with circuit load data.

Observation 3: Increased Solar Penetration (including Solar Behind the Meter) May Increase Ancillary Services Costs

The E3 methodology includes ancillary services as a component of avoided costs, and calculates these costs as a fixed percentage (2.84%) of the energy price in each hour.

This analysis excludes the fact that rapid changes in solar output, for example due to steep decline in output during spring afternoon hours, may result in increased ancillary services costs for ramping services as solar becomes a larger portion of the system. This is a subset of the issue raised in our first observation.

Yours truly,

/s/

Marcel Hawiger
Staff Attorney

Cc: Service list for R.10-05-004